

I-15.01 General

The basic requirements for highway design are outlined in 23 CFR 625, “Design Standards for Highways.” This regulation references a number of other documents and publications which are included in the **Design Manual** by reference. Following is a listing of specific publications that are utilized in highway design in North Dakota.

I-15.02 Reference Publications - - Roadway Design

- “A Policy for Accommodation of Utilities on State Highway Right of Way,” NDDOT.
- “Utility Relocations, Adjustments, and Accommodations,” Federal Highway Administration - January 2001.
- “A Policy on Geometric Design of Highways and Streets,” AASHTO, (Greenbook) (2001).
- “AASHTO Guide for Design of Pavement Structures,” AASHTO.
- “Guide for Selecting, Locating, and Designing Traffic Barriers,” AASHTO.
- “Roadside Design Guide,” AASHTO.
- “Resurfacing, Restoration, Rehabilitation (RRR) and Preventive Maintenance (PMRRR) Standards,” NDDOT – November 1998.
- “Standard Specifications for Road and Bridge Construction,” NDDOT.
- North Dakota Department of Transportation Design (NDDOT) Standard Drawings (www.state.nd.us/dot/divisions/design/caddstandards.html).
- NDDOT Right of Way Manual.
- NDDOT Local Government Manual.
- “Partnership Plan for Federal-aid Highway Program Stewardship in North Dakota,” by FHWA North Dakota Division and NDDOT.
- “Manual on Uniform Traffic Control Devices,” Federal Highway Administration (current edition).
- “Guide for the Development of Bicycle Facilities,” AASHTO – 1999.

- “Guide for the Planning, Design, and Operation of Pedestrian Facilities,” AASHTO – July 2004.
- “Designing Sidewalks and Trails for Access,” Federal Highway Administration.
- Chapter 18, NDDOT Survey Manual - 90-1 Survey.
- Chapter 19 NDDOT Survey Manual - Consultant Services.

I-15.03 Reference Publications - - Structural Design

- “A Policy on Geometric Design of Highways and Streets”, AASHTO, (greenbook) (2001)
- “Standard Specifications for Road and Bridge Construction”, NDDOT
- “Standard Specifications for Highway Bridges”, AASHTO
- Applicable sections of federal-aid policy guide 23 CFR 650
- “North Dakota Prestressed Girder Design and Checking Guide”, NDDOT
- “Highway Structures Design Handbook”, Vol I and II, American Institute of Steel Construction

I-15.04 Reference Publications - - Other

- A. Code of Federal Regulations (CFR). The CFR is a codification of the general and permanent rules published in the Federal Register by agencies of the Federal Government. The code is divided into 50 titles representing broad areas of Federal regulations. Title 23 CFR, Highways, is the volume representing those current regulations applicable to the Federal Highway Administration and the FLH Program. The following are the parts of 23 CFR that are most relevant to the development and design of highways:
 - Part 620, Subpart A. Highway Improvements in the Vicinity of Airports.
 - Part 625. Design Standards for Highways.
 - Part 630. Preconstruction Procedures.
 - Part 650. Bridges, Structures and Hydraulics.

- Part 650, Subpart B. Erosion and Sediment Control on Highway Construction Projects
 - Part 652. Pedestrian and Bicycle Accommodations and Projects.
 - Part 655. Traffic Operations.
 - Part 752. Landscape and Roadside Development.
 - Part 771. Environmental Impact and Related Procedures.
 - Part 772. Procedures for Abatement of Highway Traffic Noise and Construction Noise.
- B. Federal Lands Highway Manual (FLHM). The manual is a one-volume book of documents developed by the Federal Lands Highway Office to consolidate all basic policies, directives, standards and guides pertaining to the Federal Lands Highway operations.
- C. Other References.
- Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-96). DOT, FHWA. 1996.
 - Standard Highway Alphabet. DOT, FHWA. 1977 metric edition.
 - Standard Highway Signs. DOT, FHWA. 1979.
 - Traffic Controls Devices Handbook. DOT, FHWA. 1983.
 - Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). DOT, FHWA 1988.
 - Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals. AASHTO. (Most current edition).
 - A Guide to Standardized Highway Barrier Hardware. American Road and Transportation Builders Association (ARTBA) Technical Bulletin No. 268 B. 1995.

All of the above publications are readily available to persons performing design work for the department. In addition, there are many other AASHTO and FHWA publications and periodicals that are received and distributed to the various design entities.

Once again, the guidelines in the Design Manual are intended only to be followed as general rules, and designers are always encouraged to use their professional judgment in applying them to specific projects. There may be some legitimate instances where the design guidelines in this manual should not be followed; however, whenever there is a deviation from the guidelines, the design records should fully document the reasons for the deviation.